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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,729	08/22/2003	Niclas Karlsson	CMFL/008	4716

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EXAMINER
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GREENE, JASON M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/648,729

Applicant(s)

KARLSSON, NICLAS

Examiner

Jason M. Greene

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-24 and 28 is/are rejected.
- 7) ☒ Claim(s) 10, 11 and 25-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/8/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The use of the trademark RIGA-FLO<sup>®</sup> has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claims***

2. With regard to claim 15, the Examiner suggests Applicants rewrite the phrase "the first seal" in line 3 as "the first seal element" to clarify antecedent basis.

Additionally, the Examiner notes that the phrase "the housing" at the end of line 3 has been interpreted to be the frame assembly. If this interpretation is correct, the Examiner suggests Applicants amend the phrase to read as "the frame assembly" to clarify antecedent basis.

3. With regard to claim 16, the Examiner suggests Applicants change the word "bases" in line 2 to read as "biases" to correct an apparent typographical error.

4. With regard to claim 17, the Examiner suggests Applicants rewrite the phrases "the first seal" and "the second seal" in line 5 as "the first seal element" and "the second seal element", respectively, to clarify antecedent basis.

5. With regard to claims 24-27, the Examiner suggests Applicants rewrite the phrases "the first seal" and "the second seal" as "the first seal member" and "the second seal member", respectively, to clarify antecedent basis.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4, 9, 12-14, 16-19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen.

With regard to claim 1, Chen discloses a filter assembly (11) comprising a frame assembly (12), a filter media pack (29) disposed in the frame assembly, a first seal element (31) disposed on a first side of the media pack, and a second seal element (32) disposed on a second side of the media pack and biasing at least a portion of the media pack against the first seal element in Figs. 1 and 11-13, col. 3, lines 41-50 and col. 5, lines 14-36. The Examiner notes that the second seal element of Chen biases the media pack against the first seal element when the seal elements are plugged into the clamping space (26) of the lintels (13) of the frame assembly (12).

With regard to claims 2-4, Chen discloses the media pack (29) being pleated, the first (31) and second (32) seal elements compressing a pleat edge of the filter media pack, and the first seal element (31) having a serrated edge disposed against the filter media pack in Figs. 11-13 and col. 5, lines 14-36.

With regard to claim 9, Chen disclose the first seal element (31) further comprising a smooth edge disposed against the filter media pack in Fig. 11. Since the smooth edge abuts and seals the filter media pack, the smooth edge is seen as forming a seal feature.

With regard to claim 12, Chen discloses the filter assembly further comprising third and fourth seal element clamping the filter media pack opposite an edge clamped

by the first and second seal elements in Figs. 1 and 11 and col. 3, lines 41-50. While, Fig. 11 does not explicitly depict the edge of the opposite edge of the filter media pack, Chen discloses the frame comprising two opposite horizontal lintels (13) in col. 3, lines 41-50. Therefore, the filter assembly depicted in Fig. 11 includes third and fourth seal element clamping the opposite edge of the filter media pack.

With regard to claims 13 and 14, Chen discloses an adhesive (49) sealing an edge (the edge enclosed in vertical jambs 14) of the media pack adjacent the edge of the media pack proximate the first seal element, wherein the adhesive is a foam rubber potting material in Figs. 15 and 16 and col. 5, line 63 to col. 6, line 25.

With regard to claims 16 and 18, Chen discloses the frame assembly biasing the first and second seal elements toward one another, wherein the first seal element is biased against the media pack in a direction parallel to an air flow direction through the media pack when the seal elements are plugged into the clamping space (26) in Figs. 1 and 11-13, col. 3, lines 41-50 and col. 5, lines 14-36.

With regard to claim 17, Chen discloses the frame assembly comprising an upstream portion (19) and a downstream portion (23) coupled to the upstream portion thereby sandwiching the first seal element, the second seal element and the media pack therebetween in Figs. 11-13.

With regard to claim 19, Chen discloses the seal elements (31,32) being biased against sides (19,23) of the frame assembly in Figs .11-13 and col. 5, lines 14-36.

With regard to claim 21, Chen discloses a filter assembly comprising a frame assembly (12) having sides (13,14) defining an opening through the frame assembly, each side having at least one inwardly extending flange (19,23), a filter media pack (29) disposed in the opening frame assembly and having opposing first and second open ends and opposing first and second closed ends, a first pair of seal elements (31,32) clamping the first open end of the media pack, and a second pair of seal elements (not shown) clamping the second open end of the media pack in Figs. 1, 2 and 11-13, col. 3, lines 41-50 and col. 5, lines 14-36. As noted above, since Chen discloses the frame comprising two opposite horizontal lintels (13) in col. 3, lines 41-50, the filter assembly depicted in Fig. 11 includes third and fourth seal element clamping the opposite edge of the filter media pack.

8. Claims 1, 2, 5, 7, 8 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Wake et al.

With regard to claims 1, 2, 5, 7, 8 and 16, Wake et al. discloses a filter assembly (10) comprising a frame assembly (12), a pleated filter media pack (24) disposed in the frame assembly, a first seal element (42) disposed on a first side of the media pack, and a second seal element (44) disposed on a second side of the media pack and biasing at

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least a portion of the media pack against the first seal element, wherein the first seal element is compressible and formed from foamed elastomeric plastic polyurethane, wherein the frame assembly biases the first and second seal elements toward one another in Figs. 1 and 2 and col. 1, lines 31-55.

9. Claims 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen.

Chen discloses a method of fabricating a filter comprising placing a filter media pack (29) in at least a first portion (13) of a housing assembly, and compressing an edge of the filter media pack between a first (31) and a second (32) seal member, wherein the first seal member is placed in the housing with a serrated edge facing inward in Figs. 1 and 11-13, col. 3, lines 41-50 and col. 5, lines 14-36.

10. Claims 22 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Duffy.

Duffy discloses a method of fabricating a filter comprising placing a filter media pack (12) in at least a first portion (14) of a housing assembly, and compressing an edge of the filter media pack between a first (24) and a second (28) seal member in Fig. 2 and col. 6, line 14 to col. 8, line 17.

11. Claim 28 is rejected under 35 U.S.C. 102(b) as being anticipated by Chen.



Chen discloses a filter assembly fabricated by the process comprising clamping a first open edge of a pleated filter media pack between a first (31) and a second (32) seal member, and clamping a second open edge of the pleated filter media pack between a third and fourth seal member in Figs. 1, 2 and 11-13, col. 3, lines 41-50 and col. 5, lines 14-36. As noted above, since Chen discloses the frame comprising two opposite horizontal lintels (13) in col. 3, lines 41-50, the filter assembly depicted in Fig. 11 includes third and fourth seal element clamping the opposite edge of the filter media pack.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Kruse et al.

Chen teaches using sheet metal to form various parts of the filter assembly in col. 3, lines 44-47. Chen does not disclose the first seal element being a plastic.

Kruse et al. discloses a similar filter assembly wherein first and second seal elements (30,50) are integrally formed on first and second members (20,40) of a frame

assembly, wherein the frame assembly members, and therefore, the seal elements are formed from thermoplastic in Figs. 3-5, col. 3, lines 8-34 and col. 5, lines 18-22.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the plastic material of Kruse et al. into the seal elements of Chen to allow the filter assembly to have a lighter weight and be manufactured at a reduced cost, since it is well known in the art the plastics are lighter and less expensive than metals.

14. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Koch et al.

Chen discloses an adhesive (49) sealing an edge (the edge enclosed in vertical jambs 14) of the media pack adjacent the edge of the media pack proximate the first seal element, wherein the adhesive is a foam rubber potting material in Figs. 15 and 16 and col. 5, line 63 to col. 6, line 25.

Chen does not disclose a high loft material being disposed between an edge of the media adjacent the edge of the media pack proximate the first seal element and the frame assembly.

Koch discloses disposing high loft material (15, the same material used to form the filter media pack) between the edges of the media pack and the frame assembly to form a seal in Figs. 2-3 and col. 3, lines 4-6.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the high loft material of Koch et al. for the adhesive

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seal of Chen to reduce the number of materials used to produce the filter assembly to simply disposal, as suggested by Koch et al. in col. 1, lines 58-67.

15. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Raber.

Chen does not disclose a grille being disposed alongside the media pack.

Raber discloses a similar filter assembly comprising a grille (20a) disposed alongside a media pack (11) in Figs 1, 9 and 10 and col. 3, lines 7-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the grille of Raber into the filter assembly of Chen to provide additional structural rigidity.

#### ***Allowable Subject Matter***

16. Claims 10, 11 and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 10 and 11, Chen discloses the seal feature comprising a smooth surface.

The prior art made of record does not teach or fairly suggest the filter assembly of claim 8 wherein the seal feature comprises a rib extending from the edge or a groove formed in the edge.

With regard to claims 25-27, Chen discloses the first and second seal members being placed in the housing simultaneously with the media pack. Duffy teaches the first and second seal members being integrally formed with the housing.

The prior art made of record does not teach or fairly suggest the method of claim 24 wherein the first seal is placed in the housing before the media pack or the second seal is placed in the housing after the media pack.

The prior art made of record does not teach or fairly suggest the method of claim 22 wherein the second seal member is inserted into the housing after the housing assembly is assembled around the media pack.

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Wachter et al., Walker, Bloomer, Durgeloh, Schlör et al., Solberg, Jr. and Ota et al. references disclose similar filter assemblies.

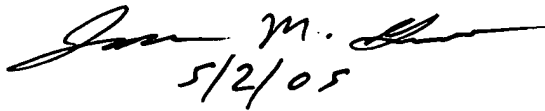
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19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason M. Greene  
Examiner  
Art Unit 1724



5/2/05

jmg  
May 2, 2005